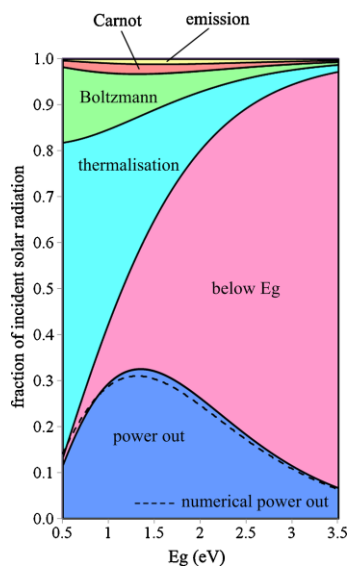


Moments in Materials Presentation: *Solar cells from a chemist's perspective*

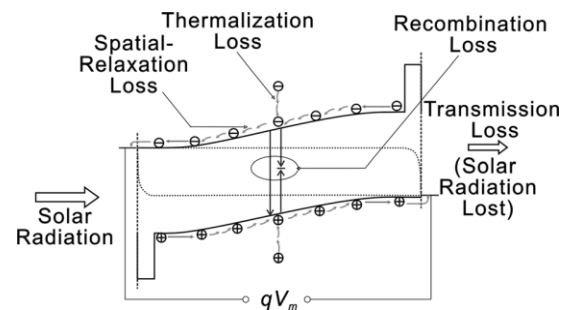
Speaker: Alex Beecher and Dr. Octavi Semonin

When: Thursday, July 17th 2014, 4:30 p.m.

Where: NWC, 7th floor meeting room, RM 703



Tired of attending talks and not understanding what the solar people are rambling on about? Tired of getting blank stares from chemists while presenting your latest solar results and want to learn another way to communicate your ideas? This educational seminar will present a mechanistic description of how solar cells work, approaching the underlying physics from the perspective of a chemist. Our discussion will use simplified molecular orbital theory to develop models of band structure, doping, and p/n junctions in order to explain the behavior and properties of photodiodes. We will also discuss the fundamental challenges facing the field of solar energy and the opportunities for chemists to advance solar research. We will close with a short reflection on the current state of solar technology and what our solar future might look like.



Selected references

N. S. Lewis. "Powering the Planet." MRS Bulletin 32, 10, 808-820 (2007).

J. Nelson. "The Physics of Solar Cells." Imperial College Press, London (2003).